NEWPORT NIKE MISSILE BATTERY D-57/58
Newport Road
Carleton
Monroe County
Michigan

HAER No. MI-80

PHOTOGRAPHY
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

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HISTORIC AMERICAN ENGINEERING RECORD

NEWPORT NIKE MISSILE BATTERY D-57/58 HAER NO. MI-80

Location: Newport Road
Carleton
Monroe County
Michigan

UTM: Center Newport NIKE Missile Battery D-57/5: 17.304000.653460
USGS Quadrangle: Flat Rock, Michigan, 1: 24,000

Date of Construction: 1954 (temporary facility) 1956 (permanent facility)

Engincer: United States Army Corps of Engineers with Contractors

Architect: United States Army Corps of Engineers with Contractors

Present Owner: Mr. Wellington Loh (owns 375.17 acres)
Palos Verde Estates, CA
Department of Defense
800 Newport Road, Carleton, MI 48161

Present Use: Storage; vacant

Significance: The Newport NIKE Missile Battery D-57/58 is one of sixteen original NIKE Missile Batteries that surrounded the city of Detroit, Michigan in 1958. D-57/58 is an intact example of a Dual NIKE Missile Battery significant for its role in American military history, the history of the Cold War, and specifically the history of the Detroit Defense Area. Further, NIKE Missile Battery D-57/58 is an important example of the relationship between military installations and the industrial economy of the State of Michigan.

Project Information: This mitigative document was undertaken in 1994 in accordance with Stipulation 1(A)(2) of the Memorandum of Agreement between the Michigan State Historic Preservation Office, the Advisory Council on Historic Preservation, and the Departmment of the Army, Corps of Engineers Detroit District. The structures associated with the Newport NIKE Missile Battery are scheduled for demolition.

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INTRODUCTION

NIKE Missile Battery D-57/58 is located in Monroe County, Michigan and represents the best remaining example of a former NIKE Missile Battery in Michigan. While the missiles, fueling, and guidance systems were removed during decommissioning in 1974, the existing structures are easily recognizable within the framework of NIKE technology and operation. As such, the remaining buildings associated with the former NIKE Missile Battery D-57/58 provide a good deal of interpretive information about the design and operation of a NIKE Missile Battery.

The NIKE system, one of several air defense missile systems developed and employed after World War II, was a result of a research program initiated by the United States in 1944. The United States Army recognized the need for an air defense system capable of maneuvering quickly while closing in on a moving target. Development of a command guidance system composed of a radio-guided rocket, two radars and a computer was accelerated in 1951 largely as a result of the Korean Conflict. By 1954, the NIKE Missile system began to be employed throughout the continental United States. NIKE Missile Battery D-57/58 located just south of the city of Detroit, Michigan, follows the locational pattern typical of NIKE Missile Batteries of being placed for purposes of defense around major metropolitan areas.

UNITED STATES AIR DEFENSE

While strategic defense against airborne attack is a product of the 20th century, the concept can be found as early as the Enlightenment. In 1783, the Montgolfer brothers staged a demonstration of their balloon near Paris, France. The military significance of this demonstration was noted by a Prussian Lieutenant named J.C.G. Hayne who wrote that aerial warfare might make it possible for fleets of balloons to bombard fortifications and cities without impediment.[1]

The military use of balloons spread very slowly, however. These early balloons were expensive, unreliable, could not be effectively maneuvered. Moreover, such balloons were capable of carrying only a very tiny payload. By the mid-19th century balloons were used primarily for limited observation of troops in the field.[2] On August 31,1861, Thaddeus Low deployed a balloon on behalf of Federal forces in northern Virginia. This balloon was fired on by gunners of a Louisiana artillery unit. An important military principle was demonstrated by this event: you need not hit the enemy - intimidation was an equally effective defense. While unable to strike the balloon, the gunners were none-the-less able to intimidate its occupants and the balloon was quickly lowered.[3]

Later in the 20th century, the development of cheaper, lighter engines allowed for the development of powered balloons. Count Zeppelin built a fleet of dirigibles for the Imperial German forces. This fleet was deployed over London during World War I in a attempt to demolish the city. Attempts to thwart the dirigible threat included defensive measures such as anti-aircraft guns and offensive measures such as raiding German dirigible bases. Britain's defensive and counter offensive measures effectively destroyed the German dirigible fleet.[4]

Air defense became important again by the 1930s when it became clear in Europe that fascist countries were preparing for yet another war. Britain felt the necessity of developing large bombers capable of deterring a war with fascist countries while at the same time recognizing the need to defend against the attack of enemy bombers. By 1937, the United States Navy recognized

the need to develop the ability to detect incoming bombers and offered Bell Laboratories a contract to research radar. When the United States entered World War II radar played an important part in United States defensive tactics. A comprehensive air defense apparatus was set up that included radar installations spotted along the east and west coasts of the United States. These radars were inked together by simple communications nets. Existing anti-aircraft guns were converted to fire control by radar.[5]

It was also during World War II that the United States military began to experiment with rockets and Missiles. While anti-aircraft guns had been reasonably effective against air attacks on London, it was evident to United States Army officials that the speeds and rates of maneuver of jet-propelled aircraft would quickly surpass the capabilities of ground fired shells. In 1944, Jake Schaefer, an ordinance officer in the United States Army formerly employed by Bell Laboratories, advocated the development of a surface-to-air missile.[6] Schaefer's ideas were presented in a paper he wrote for the Army in which he conceptualized a command guidance system composed of a radio-guided rocket, two radars, and a computer. One radar would track the target, and the other radar would track the defending missile from its point of launch. The computer would calculate the place of impact and command the missile by radio to intercept the target.[7] The Army called this system anti-Aircraft Guided Missile (AAGM) until Colonel Trichel, director of advanced research for the Army, renamed the project NIKE for the Greek goddess of victory.[8]

Air defense of the United States in 1950 consisted of radar-directed 90mm and 120mm anti-aircraft guns placed in cities during World War II under the control of the National Guard. These guns were deployed around and in the major cities and ports of the United States. New York and Washington had four battalions; Chicago had three battalions; Philadelphia, Detroit, and San Francisco had two; Boston, Baltimore, Pittsburgh, and Los Angeles had one.[9] While little was done to actively provide strategic defense for the United States from 1945 to 1950, the invasion in 1950 of South Korea by North Korea with the aid of Soviet tanks and artillery spurred new concern for anti-aircraft research. In addition to the Korean War, the ability of the Soviet Union to attack the continental United States over the North Pole or over the seas against either coast coupled with their demonstrated testing of the hydrogen bomb in 1949 spurred the United States Army to establish a nationwide defense system to protect against Soviet intercontinental ballistic missiles.[10] The adversarial relationship between the Soviet Union and the United States became known as the Cold War and spurred the development and deployment of the NIKE system.[11]

Beginning in 1953 NIKE was deployed first on the east and west coast and then in the interior of the United States. More than 4,000 missiles were installed. Many went into old anti-aircraft guns sites; however, the 25 mile range of the NIKE missiles allowed the batteries to be placed further from the potential targets. This allowed more time to shoot at the incoming bombers. America's suburbs became sites of the NIKE Ajax, the first technological advance in the conversion of the United States air defense from artillery to guided missiles.[12] Due to the extensive nature of the NIKE Ajax, the next generation missile, the Hercules was designed to fit into the existing system. A bigger, more powerful missile with a longer range, the Hercules was capable of being fitted with nuclear as well as conventional warheads. The Hercules system was first deployed in 1959 and by 1960 most Ajax missiles had been replaced by Hercules.[13] Development of yet another NIKE missile system, the Zeus, began in 1958. Equipped with a more efficient radar system than either the Ajax or the Hercules, the Zeus was never activated; however, many of the systems developed in its research were used in later, anti tactical ballistic missile systems.[14] After 1960,

technology developed relating to ballistic-missile defense (BMD) made the NIKE system obsolete, although it was not entirely decommissioned until 1974.[15]

U.S. Army Antiaircraft Command

While the need for a reorganization of the Army command system was recognized during the development of antiaircraft technology, it was not until 1950 that all artillery units were united as part of a new continental air defense system under the U.S. Army Antiaircraft Command (ARAACOM) headquartered in Colorado Springs, Colorado.

The actual construction of NIKE bases throughout the continental United States stimulated a further restructuring, and in 1954 ARAACOM and the corresponding units in the U.S. Navy and Air Force were combined to form the Continental Air Defense Command (CONAD) at Colorado Springs under the direction of the Joint Chiefs of Staff. This reorganization was further refined in 1957 such that the Army's air defense was responsible for:

> point air defense by missiles fired from the ground to aerial targets not more than 161 kilometers (km) away. Point defense was to include 'geographical areas, cities, and vital installations that could be defended by missile units which received their guidance information from radars near the launching site' and also was to include responsibility of a ground command for air protection of his forces.[16]

There were approximately 100 such commands in the continental United States. ARAACOM became known as U.S. Army Air Defense Command (ARADCOM). At this same time the United States and Canada combined their air defense under the North American Air Defense Command (NORAD). Army ARADCOM units were under the direction of NORAD and NORAD reported directly to the Joint Chiefs of Staff.

NIKE Command

Initially under the command of the Office of the Ordnance Corp (OCO), portions of the NIKE system were transferred to Redstone Arsenal in 1951. The transfer included monitoring, coordinating, and technical sections. The OCO continued to be responsible for direction and decision making on policy, scope, goals and modifications in design, performance and operation of missiles. The U.S. Army Ordnance Missile Command (AOMC) was established at Redstone Arsenal in 1958. The U.S. Army Rocket and Guided Missile Agency (ARGMA), the U.S. Army Ballistic Missile Agency (ABMA), the Jet Propulsion Laboratory, White Sands Proving Grounds, and Redstone Arsenal all fell under the command of AOMC. ARGMA developed the Hercules systems and the conversion of Ajax sites to Hercules sites under the command of AOMC.[17]

ARGMA and ABMA were disbanded in 1961 with the introduction of ballistic missiles. In 1962 the army established two new commands, the U.S. Army Material Command (AMC), which replaced OCO, and the U.S. Missile Command (MICOM) which eventually replaced AOMC. MICOM commanded the Hercules program until 1971 when it was turned over to Air Defense Special Items Management Office (ADSIMO), which was part of MICOM.[18]

ORGANIZATION AND CONSTRUCTION OF NIKE SITES

Construction

The Army Corps of Engineers (COE) is responsible for the planning, engineering, and construction of United States Army installations, including NIKE batteries. With the onset of the Cold War subsequent to World War II, the COE undertook a large-scale building program which included anti-aircraft and anti-missile defense systems. The NIKE air defense system was one of the earliest products of this effort.

During the initial developmental stages of the NIKE Program, the COE pursued an aggressive agenda of land acquisition, base planning and construction. As initially planned, the NIKE Missile system was an above ground operation that would require hundreds of acres of land per base. Faced with these staggering land requirements, and citing security concerns, the COE redesigned the NIKE program as an underground system that required far less land per base and did not present an obvious, inviting target for would be saboteurs.

Areas under consideration for selection as NIKE sites needed to meet the specific tactical requirements of local base commanders. Also taken into consideration was the desire of the army to lessen public uneasiness by locating NIKE sites on existing Army installations or government land. If these options were not feasible, then local government lands or private holdings would be considered for acquisition.

Typical NIKE Site Plan

A typical NIKE Battery consisted of two areas, a Control Area and a Launch Area. Occasionally, bases included a third area comprised of additional housing for families of married officers. The Control Area was designed to be roughly rectangular or L-shaped and approximately 6 to 8 acres.[19] The Control Area was also designed to be radar-accessible to the Launch Area, and at such an elevation as to avoid the effects of tree interference for the radars involved. It was vital, during a launch, that there was a line of site between the missile tracking radar and the erect, ready-to-be-launched missile.[20] Three radars were required in the system: the missile tracking radar (MTR), the target tracking radar (TTR), and the acquisition radar (ACQR). The acquisition radar was easily identifiable by its constantly revolving antenna. The ACQR was designed to make its initial contact with the approaching target at a range of approximately 120,000 yards.[21] If the approaching craft was an enemy, the ACQR would record information regarding range, elevation, and azimuth.[22] The TTR would then lock on to the target. Concurrently, missiles would be positioned and designated, and the MTR would lock onto the appropriate vertical missile. The target was recorded electronically and graphically and the battery control officer could then press the firing button.[23]

In addition to the radar towers and buildings, electrical generator buildings are situated in the Control Area to supply the necessary electrical power to operate the equipment located in this area. Where available, commercial power was used with electrical converters to change 60-cycle power to 400-cycle power.[24] During launching, the base would refrain from using the commercial grid, which was mainly used during daily operations, and would be electrically self-sufficient.[25]

A corridor building was characteristically located in the Control Area and protected the cables which interconnect the Control Area and the Launch Area. On either side of the corridor building were vans or trailers. In these vans the following equipment could be found: computer amplifier, cabinet assembly for a computer server, cabinet assembly for computer power, a spherical level, a plotting board (early warning), a console assembly for battery control, event recorder and switchboard, heating and ventilating system, acquisition radar assembly unit, shutter and damper assembly, and various escape hatches, fire extinguishers, and telephone headsets.[26] There was room for four radar technicians in each van to observe the radar screens, and perform other battery control duties. The vans were placed on either side of the corridor building for efficient heating and cooling purposes and the building provided a sufficient fire wall between the two vans.[27]

The Improved NIKE-Hercules missile system utilized a more advanced technology and required additional equipment in the Control Area of bases which were being converted from Ajax to Hercules. The ACQR of the Ajax was modified to perform with the Hercules missile. One of the principle alterations was the introduction of a traveling-wave-tube RF amplifier that utilized a low-noise-figure receiver providing a greater range performance than the NIKE-Ajax receiver.[28] The TTR was modified to allow for much longer range performance, obtained in part through the use of a larger and more efficient antenna.[29] The MTR was similarly modified so that both tracking radars would remain interchangeable. A pulse position code for communication between the MTR and the Hercules missile was added for reliable communication with the missile at its furthest range.[30]

To address post-1960 threats, Bell Laboratories upgraded their previous radar designs to the Improved NIKE-Hercules System. An acquisition radar needed to have sufficient power to detect small radar targets at long ranges in all altitudes simultaneously.[31] A high-powered acquisition radar (HIPAR) and low-power acquisition radar (LOPAR) were developed to perform these functions. The rationale of electronic jamming called for the use of anti-jamming circuit improvements and utilization of the logistical aspect by the use of multi-frequency bands.[32] Additionally, the Hercules TTR was improved to provide advanced performance capabilities against small targets and to increase the X-band power level that jamming aircraft must produce to interfere with system operation.[33] The HIPAR and LOPAR, and an associated control building were introduced as the Improved NIKE-Hercules System.

Typically the Control Area also required a mess hall, enlisted men's barracks, administration building, recreation building, storage buildings, security fencing, a pump house, water supply, electrical distribution and sewage disposal systems. Other improvements which were authorized include a sentry box, flag pole, paint and storage sheds, combination athletic court, the paving of roads, hardstands, and parking areas, sidewalks, four non-commissioned officers (NCO) rooms in the barracks, and street lighting in the housing area.[34, 35]

Standard Launch Areas of NIKE sites required a variety of structures which all played an integral role in the launch operation. The Launch Area was designed to comprise approximately 45 acres.[36] The typical NIKE-Ajax Launch Area included a missile assembly and test building, a warheading building (being more prevalent following the introduction of the NIKE-Hercules missile)[37, 38] missile storage structures—underground being the most efficient and more widely used, fueling area, various storage sheds, barracks, pump house, and sentry boxes.[39,40] The missiles arrived at the base partially disassembled and unarmed. The parts were taken into the

missile assembly building where the missiles were assembled, hydraulic electronic checks were made, fins were installed, and air chambers were pressurized.[41] The first stage of the Ajax and Hercules missiles were both powered by solid propellant boosters and these boosters were attached at this time. In the case of Ajax missiles, which used liquid fuel in the second stage, the missiles were then taken to the acid fueling/warheading area for fueling with jet fuel. Three high-explosive warheads were attached subsequent to the fueling operation.[42] After the introduction of NIKE-Hercules missiles, which used solid fuel in the second stage, the missiles were moved from the missile assembly building to the warheading building for attachment of the atomic or conventional warhead to the missile. The earthen berms surrounding the acid fueling/warheading building were intended to contain explosions in case of an accident.[43] After assembly, fueling, and arming, the missiles were moved to the underground structures for storage.

Underground missile storage structures were designed with a launcher mounted directly under the platform. The capability of firing directly from the platform was an innovation which made possible a significant reduction in the amount of surface area required to house a typical launch area. A single battery included twelve launchers, divided into three groups of four. A full complement of missiles included one missile in position and three reloads for each launcher.[44] The missiles were stored in the underground magazines, one missile always ready on each elevator launcher and spares for quick reloading nearby on a rail system. The launcher ready time was normally 45 seconds, allowing 32 seconds for the elevator to rise. The missiles would be elevated to ground level and moved by rail away from the launcher, so that another missile could be quickly elevated to the surface if needed. Each launcher was associated with a connected control room, where the Launch personnel operated the launcher mechanism controls.

The generator building in the Launch Area supplied the site with standby and tactical operating power.[45] The electric power for the Launch Area was supplied by 150-kW, 60-cycle diesel generators or when available, by commercial sources. Direct 60-cycle power was used for the elevator, and where 400-cycle power was required, the 60-cycle power was converted to 400-cycle power by means of frequency converters.[46]

An enlisted men's barracks building, including a few officer's quarters, was often located in the launch area.[47] These barracks typically did not include dining facilities, and were primarily sleeping quarters for the launch personnel, and associated officers.

Additional security was needed with the NIKE-Hercules missile system; consequently guard dogs were utilized.[48] Guard dog kennels were typically located in the Launch Area.

Decommissioning

While originally planned for approximately ten years of active use, the NIKE sites outlived their expected life span by nearly five years. All NIKE sites were decommissioned between 1964 and 1975. In 1963 there were 164 active Hercules firing batteries; in 1974 there were only 52, and by 1975 only four batteries were active.[49] The last operationally active battery located at Fort Bliss, Texas, was decommissioned in 1983.[50] The NIKE sites were dismantled in a sequence of 52 steps over a period of six months. Most of the buildings and missile magazines were left in place. Missile components and supplies were returned to the depot-supply areas from which they were shipped. The acid fueling pits and the launcher area were drained of hydraulic fluids.

Missiles were taken apart and put back in their original containers to be returned to their place of construction.[51]

DETROIT DEFENSE

Detroit Defense

The following information was extracted from Appendix B "Locations of former NIKE Missile Sites" in *Historical Overview of the NIKE Missile System* by McMaster et al. published in 1983.

The Detroit Defense area included a total of 16 NIKE Batteries which ringed the city of Detroit, Michigan. The 3rd Artillery/4th Battalion Command which was part of the 18th Battalion was Headquartered at Detroit, Michigan. The Newport D-57 NIKE Battery and the Carleton D-58 NIKE Battery were under the command of the 517th Artillery/2nd Battalion which was part of the 504 Battalion headquartered at Detroit, Michigan. Batteries C and D at the Newport NIKE Missile Battery D-57/58 housed NIKE Ajax from 1955 through 1958 and NIKE Hercules from 1960 through 1974.[52]

Although documentation concerning specific construction activities relating to the Detroit Defense area batteries is scarce, it appears these facilities are typical of NIKE sites in general. Most of the NIKE batteries were constructed and operationalized between 1955 and 1957. All of the NIKE batteries protecting the Detroit defense area were converted from Ajax to Hercules between 1959 and 1963.[53]

NIKE Missile Battery D-57/58.

The Newport NIKE Battery D-57/58 appears in documentation under several different names. Known initially as the Newport NIKE Battery D-57, this name derives from the facility's former function as the Newport Naval Station. The NIKE Battery is also referred to in some government documents as the Carelton NIKE Battery D-58, and in the early 1960's became popularly known as the Monroe NIKE Base.

NIKE Missile Base D-57/58 is located south of the city of Detroit in a largely agricultural area. However, unlike many NIKE sites, which were constructed on previously unused or vacant land, NIKE Missile Battery D-57/58 was constructed on the site of the former Newport Naval Air Station at N. Telegraph and Newport Roads in Monroe County, Michigan.

The base was first utilized as an emergency landing strip and training site for Navy pilots from 1942 to 1945.[54] The site was part of the Grosse Ille Naval Center and consisted of 480.72 acres acquired by the United States Government in 1942 from William G. Vetter.[55] The site briefly housed German POWs in 1945 and 1946. The base was also utilized as the Airport Community High School from 1947 to 1953. The Department of the Navy transferred the entire acreage, including 18 structures, to the Department of the Army in 1954. The Department of Defense acquired the property as part of the Detroit Defense Area.[56] Thirty-three structures were built on the property during the period of Army use from 1956 through 1962.

The Newport NIKE Missile Battery (D-57 and 58), as documented consists of 36 structures, located within three discrete areas. The Control Area contains 13 structures, the Launch Area has

12 structures, and 11 structures are in the administration/housing/mess hall area formerly associated with the Newport Naval Air Station.

Integrated Fire Control Area

The former Newport NIKE Missile Battery was a dual battery, meaning there were two Control Areas to accommodate the six (as opposed to two or three) missile launchers. Consequently, the Control Areas were delineated as the East Control Area and the West Control Area. The entire Control Area, delimited by fences, encompasses approximately 18.75 acres. The East Control Area consists of four structures. The remains of a missile tracking radar (MTR) tower, a target tracking radar (TTR) tower, an acquisition radar (ACQR) tower, and a generator building are located in this area. The former West Control Area includes four radar towers— MTR, TTR, ACQR, and low-power acquisition radar (LOPAR); one corridor building; one generator building; one electrical/generator building; one HIPAR building; and one guard shack. All of the structures within and connecting the East and West Control Areas are accessible to each other by concrete walkways and roads. There are concrete pads on either side of the present corridor building and adjacent to the former location of the corridor building in the East Control Area. These pads were utilized as hardstands for the control vans/trailers.

Launch Area

The Launch Area of the former Newport NIKE Battery encompasses approximately 10.48 acres of fenced area. The topography of the land is relatively flat. The area on which the buildings stand appears to have been built up to a slightly higher elevation than what was originally characteristic of the pre-installation topography. The Launch Area contains the original structures dating from the period of the base's operation: a missile assembly building, a warheading building, a generator building, an enlisted men's barracks, two guard shacks, and underground missile silos.There were six underground magazines where the missiles were stored in the Launch Area. The barracks are located closest to the entrance to the base, the missile launchers are farthest away from the entrance, and the remaining buildings are located in between. A large hexagonal-shaped concrete airstrip is located to the immediate north of the missile launchers and the barracks are situated on top of it. The airstrip and the entire housing/administration/mess hall area are the only remnants of the Newport Navy Base and pilot training area (active 1942-1946). All of the structures within the Launch Area are connected with concrete walkways and roads. These walkways facilitated the movement of missiles to and from the buildings during the assembly and arming process.

Remaining Strucutres

The remaining eleven strucures are located in an area comprised of approximately 6.65 fenced acres. This area, in addition to the airstrip, is all that remains of the former Newport Navy Base and pilot training center. The structures in this area include: an H-shaped administration and command office building, two paint sheds, two storage structures, one sewage treatment plant, one theater, two fuel pump houses, one water pump house, and one guard shack. All of the buildings are structurally unsound and entrance into them to view the interior was inadvisable.

The administration and command office building utilized during the period of the Newport NIKE Battery was converted from the building used as offices and a carpentry shop by the Newport

Naval Air Station.[57] From 1945-1946 the same H-shaped building housed German Prisoners-of-War. This building subsequently housed the Airport Community High School from 1947-1953.[58] When the Army established the Newport NIKE Battery in 1956, the building was altered and utilized as the mess hall, missile headquarters, battalion headquarters, stockade, and PX.[59] The building utilized as a theater during the period of operation of the Newport NIKE Battery was formerly utilized as a Navy aircraft hanger and radar station.[60]

An officers' quarters building was also located in this area, but was demolished in 1988.[61] The former Navy administration building, which housed temporary enlisted men's and officers' barracks, and was subsequently utilized for administration headquarters, the offices for command, a supply room, storage rooms, and an auditorium is extant but is not documented as part of this project.[62] All of the structures in this area were easily adaptable to Army requirements. These buildings then served the battery control area as the appropriate structures typically associated with that particular area.

Mess Hall Barracks Building

The mess building was an H-shaped building located near the main entrance of the Newport base. When the Newport base was used as a naval air station, the mess hall/barracks building contained a mess hall and administrative and base offiees on the first floor, and sleeping quarters on the second floor. There was a carpentry shop located in the basement. When the Newport base was converted to a NIKE battery, alterations were planned for the mess hall/barracks building. These alterations included upgrading the mess hall kitchen and service areas, and removing interior walls to create more space.[63]

The mess hall/barracks building was a two-story, wood-frame building constructed on a concrete foundation. It consists of three wings, so that the floor plan resembled the letter "H". The main wing of the building is 100 feet x 28 feet with a flat, slightly sloped roof. It had two double-doored entrances located at the east and west ends of the wing flanked by 3 feet x 6 feet windows. Three windows were 6 x 6 feet, and were evenly spaced between the doors in the center of the wing. The second floor contained seven evenly spaced windows. The east and west wings were similar in their layout. Each wing was two-stories, 128 x 28 feet with a flat, slightly sloped roof. Three entrances were provided for both the east and west wing. A double-doored entrance leading into the main wing was centrally located on exterior elevations of both the east and west wing. Two additional entrances were located at the north and south ends of these wings. The second levels of the east and west wings had entrances at their north and south ends as well. Windows, 3 x 6 feet, were evenly spaced between the entrances, and on elevations which contained no entrances.

The exterior of the mess hall/barracks building was originally covered with cement asbestos shingles which were later covered over with aluminum siding. The roof of the building was covered with composite shingles.

Paint Sheds

Two paint sheds were located behind the mess hall/barracks building on the site of the former naval air station. These structures were small, wood frame buildings, approximately 7 feet x 7 feet, with sloped roofs covered by composite shingles. Walls consisted of horizontal wood planks. An

entrance door was located at the front of each paint shed with centrally located windows on the other walls.

Storage Structures

Two general purpose storage structures were also located southwest of the mess building on the site of the former naval air station. These structures were elongated rectangular buildings constructed of metal. The larger of these buildings, located slightly closer to the mess hall/barracks building, had a door on its southeast end, which allowed the only access into the building. The northwest end of the building had a large, centrally placed window, and the northeast and southwest elevations each contained eight windows. The smaller storage building had a sliding door on its southeast end, and a single personnel door on the northwest elevation.

Both the northeast and the southwest elevations contained six windows. Both storage buildings have pitched metal roofs.

Sewage Treatment Plant

A sewage treatment plant was constructed at the time the naval air station was activated in order to properly dispose of and treat sewage waste generated at the base. This facility is located to the southeast of the mess hall/barracks building. The treatment facility consists of a fenced-in area, comprising 18,656 square feet. Within this area were located two concrete block structures and a concrete sewage holding reservoir. The concrete buildings most likely contained electrical equipment that ran the treatment center and served as equipment storage.

Theater Building

The theater building was originally constructed as a naval air station radar facility and hangar. The building was later converted into a theater when the naval air station was transferred to the army. The theater building is a frame building with an ell on its southeast elevation. The front of the building faced southwest toward the former airstrip. Entrances located on this side of the building consisted of two large garage-style overhead doors, and a personnel door. An additional personnel door was located on the southwest elevation of the small ell. A back door, flanked by two windows, was located on the northeast side of the theater building. Four equally spaced windows were located on the northwest side of the building, and five on the southeast. The flat roof was slightly sloped and covered with composite shingles.[18]

Fuel Pump Houses

Two fuel pump houses were located at the Newport naval air station. The fuel pump buildings are located northeast of the theater building, at the edge of the paved area. The fuel pump group consists of two buildings. The fuel pump house, located further to the southeast, is the larger of the two buildings. It is a small concrete block building with a pyramidal hipped roof topped by a louvered cupola. The roof is covered with composite shingles. A central doorway is located on the southwest elevation of the building, and a single, centered window on the northeast elevation. The smaller fuel pump building is also constructed from concrete blocks, but has a flat roof which slopes to the rear of the building. The smaller fuel pump building has an entrance door on its southwest elevation, but does not have any windows. The smaller fuel pump building appears to

have been built according to the plans of the guard house structures, but altered for a different purpose.

Water Pump Building

The water pump building was located southwest of the mess hall/barracks building at the Newport naval air station. The water pump building is a small wood frame structure with a flat, steeply sloped roof. The walls of the structure were constructed from wood planks. An entrance door is located on the southwest elevation of the water pump building, and a small window, 1 foot x 1 foot, is located on the northwest and southeast elevations.

Guard Shack

A guard shack, or sentry box, is located at the main gate of the Newport naval air station. The guard shack is constructed from concrete blocks on top of a concrete slab, approximately 5 x 7 feet, and has a slightly sloping flat roof. The guard shack has an entrance door on one side, and windows on the remaining three sides.

Decommissioning of D-57/58

Newport NIKE Battery D-57/58 was transferred to the Michigan National Guard in February of 1963. The battery had been scheduled to close in 1969; however, it remained operational until 1974. At that time the radar equipment was removed along with the missiles themselves. The property changed hands several times subsequent to the closing. Mr. Wellington Loh owns the majority of the remaining buildings. Approximately 35.8 acres are currently retained by the Department of Defense and leased to the Michigan National Guard.

SIGNIFICANCE

The Newport NIKE Battery D-57/58 is significant because it is the best preserved example of a NIKE battery in Michigan. D-57/58 represents the physical manifestations of both the technology and the prevailing political attitudes characteristic of the Cold War of the late 1950s and early 1960s. D-57/58 is in a fairly good state of preservation due to the fact that while the base was scheduled to he decommissioned in 1969 it was operational until 1974 when the missiles were finally disassembled and removed. After the facility was closed in 1974 it was offered for sale; however, access to the buildings themselves was limited. D-57/58 retains the sense of a NIKE battery due to the preservation of the majority of the buildings associated with the operation of the NIKE battery.

In particular the Launch Area has suffered little alteration and the majority of buildings associated with the Launch Area are still standing. In addition, although the missiles themselves have been removed, the silos remain intact and cleared of debris. This portion of the site retains a high degree of integrity.

The Control Area has suffered a greater loss of integrity as a result of the removal of the radar equipment and vans when the site was decommissioned. This makes the physical manifestations of the activities that took place while the site was operational less easy to interpret.

Taken in its entirety; however, D-57/58 is a good example of an intact NIKE site and certainly the best preserved NIKE site associated with the Detroit Defense Area, and the State of Michigan. With the addition of the documentation provided in this report, D-57/58 provides a unique look into the technology and psychology of a significant period of American history.

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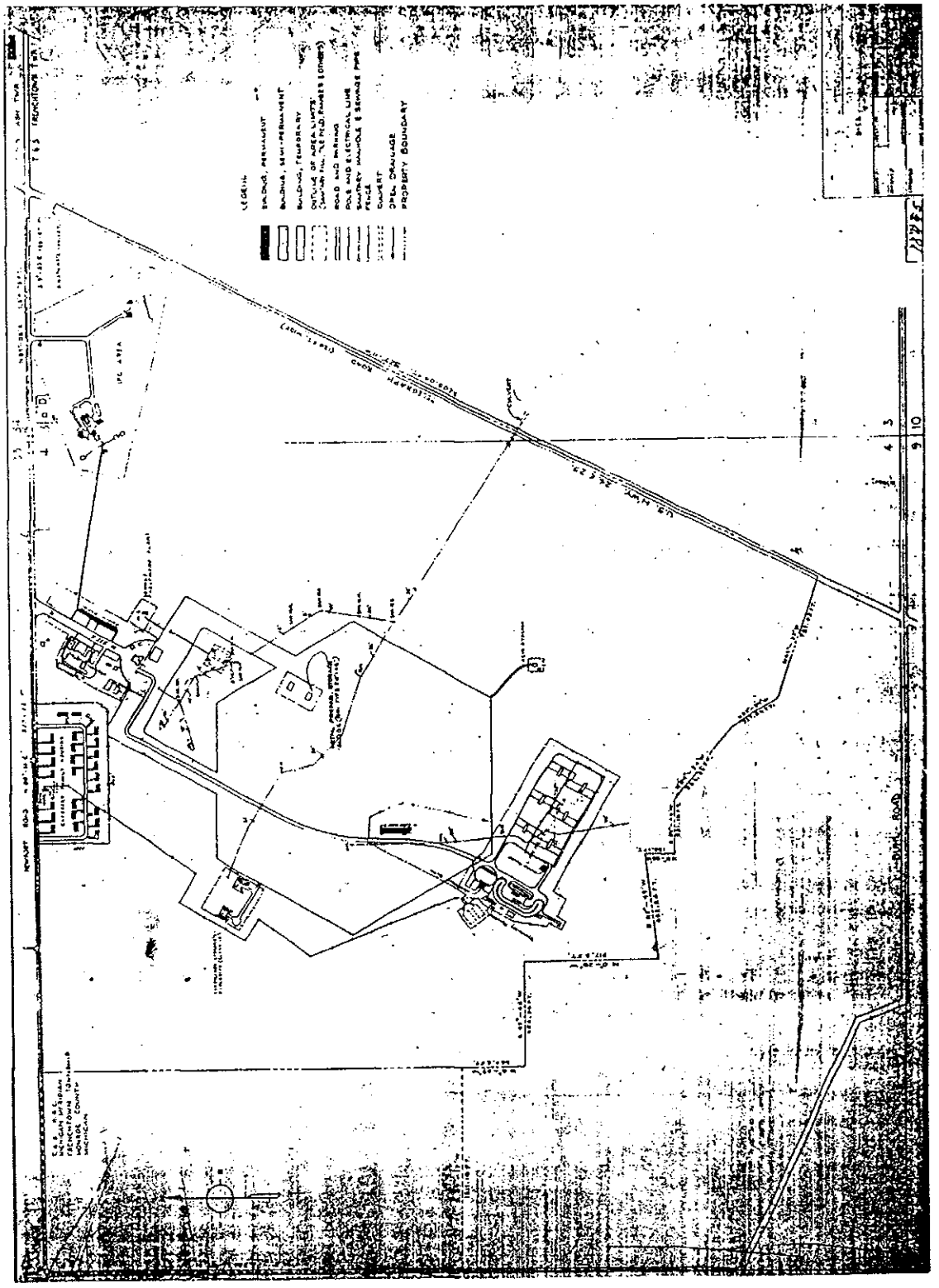

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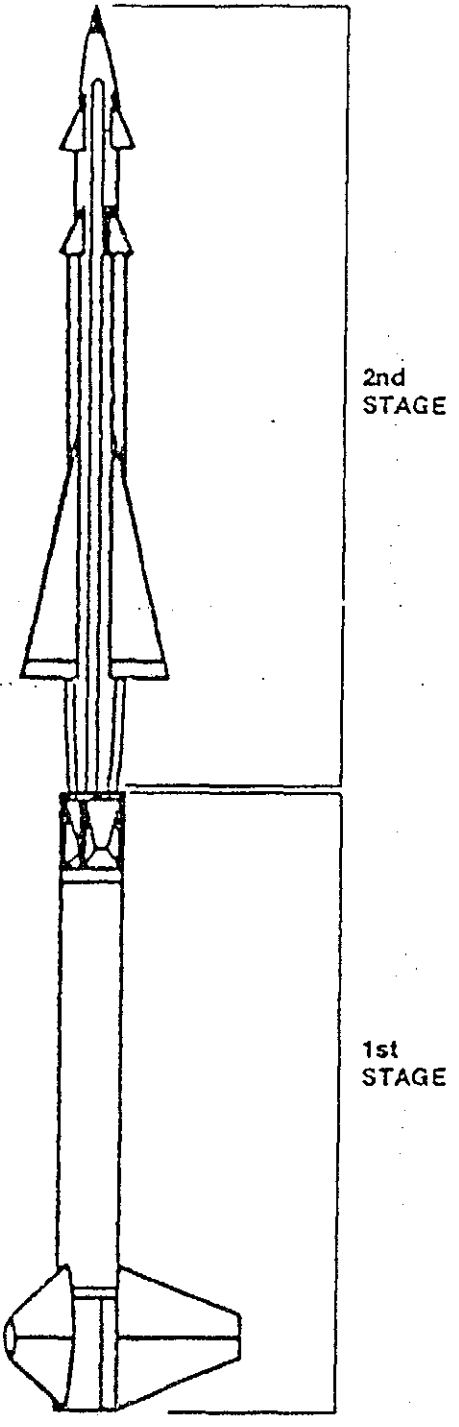

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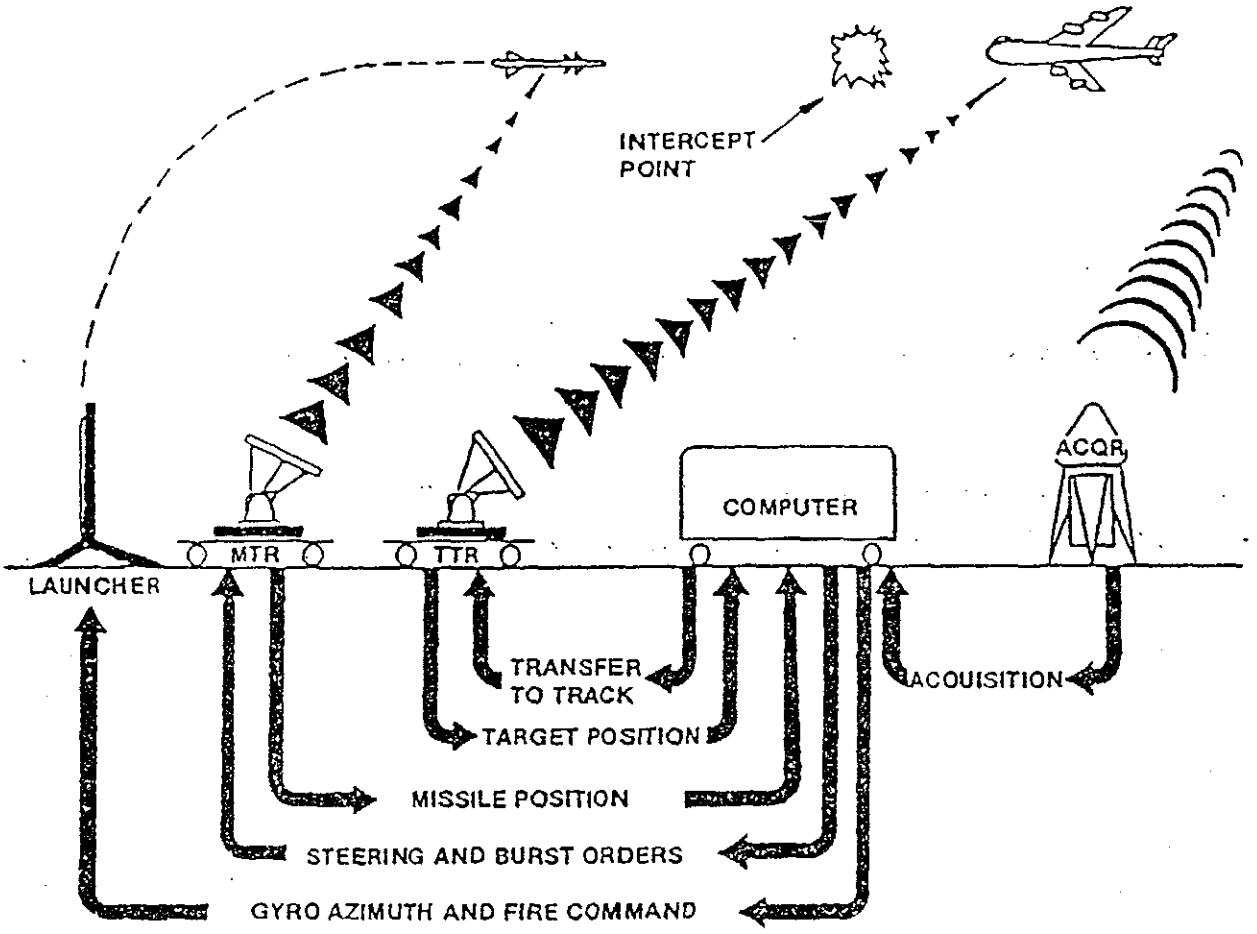
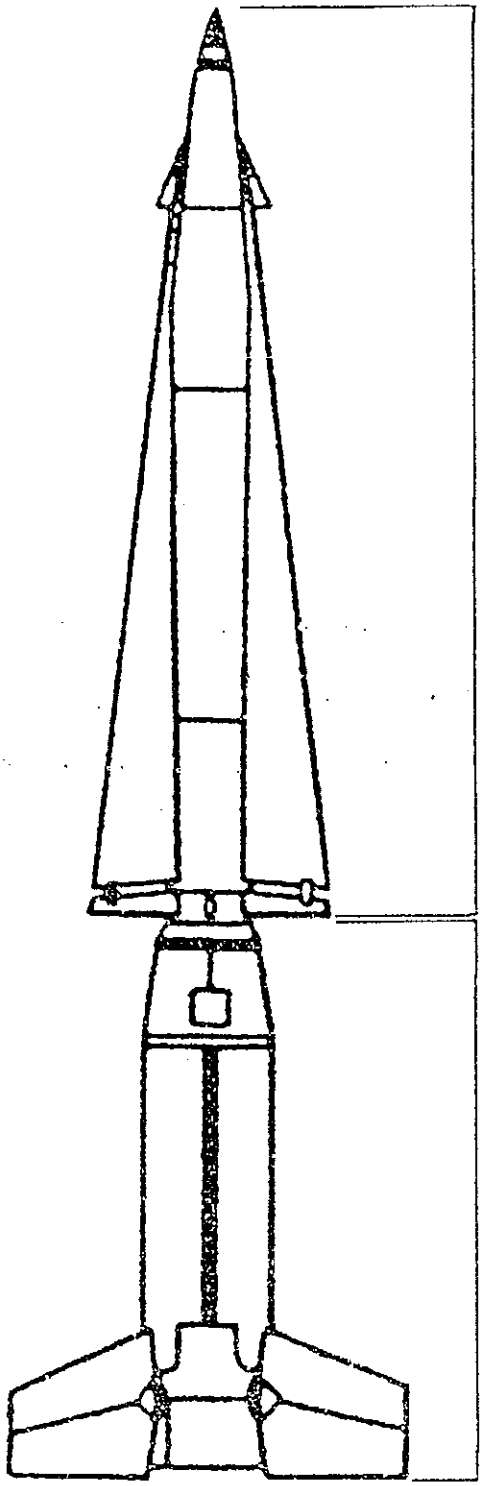


KEY

MTR	MISSILE-TRACKING RADAR
TTR	TARGET-TRACKING RADAR
ACQR	ACQUISITION RADAR

Data flow of radar at control area from "Procedures and Drills for the NIKE Ajax System," Department of the Army Field Manual, FM-44-80, from Institute for Military History, Carlisle Barracks, Carlisle, PA



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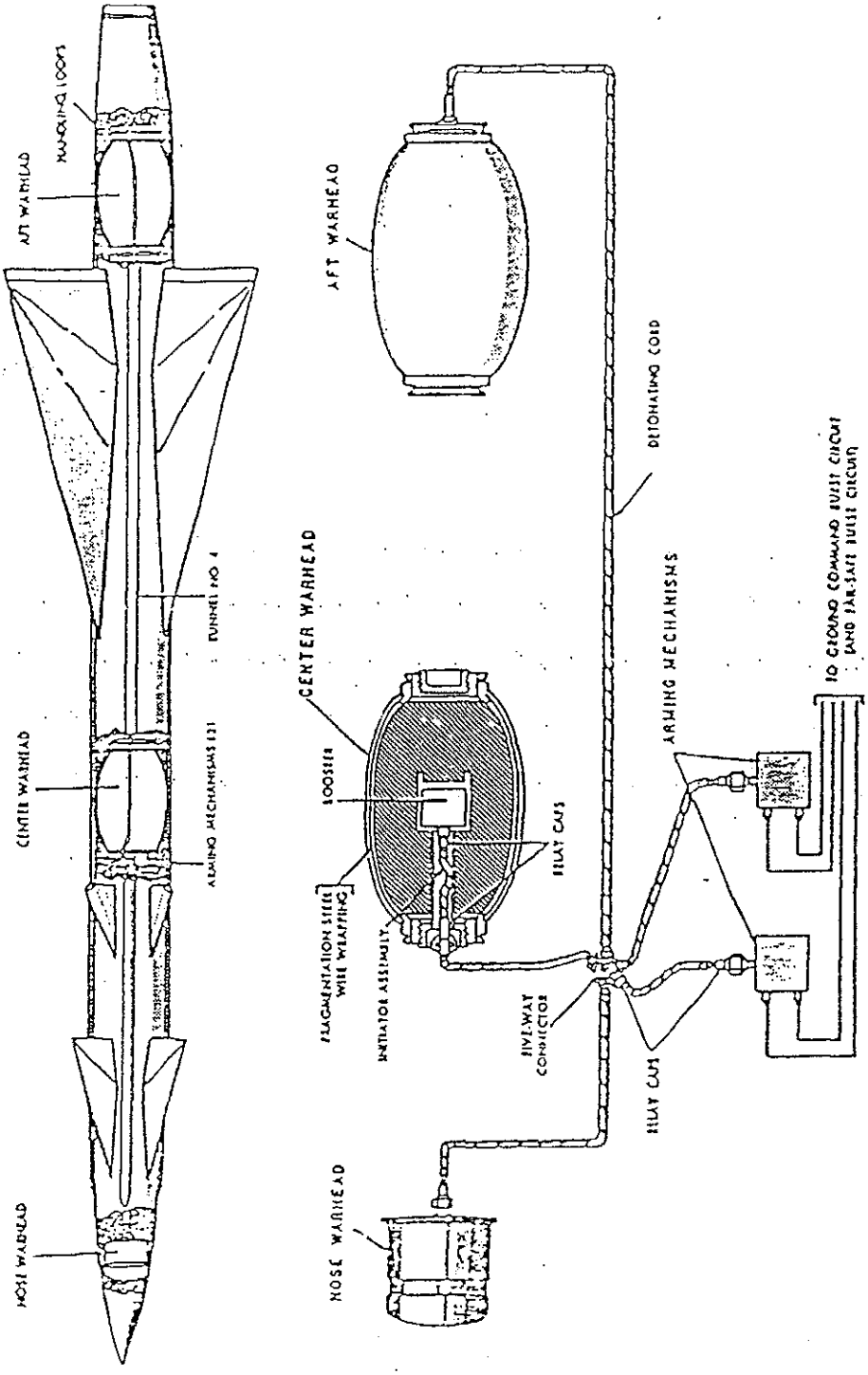

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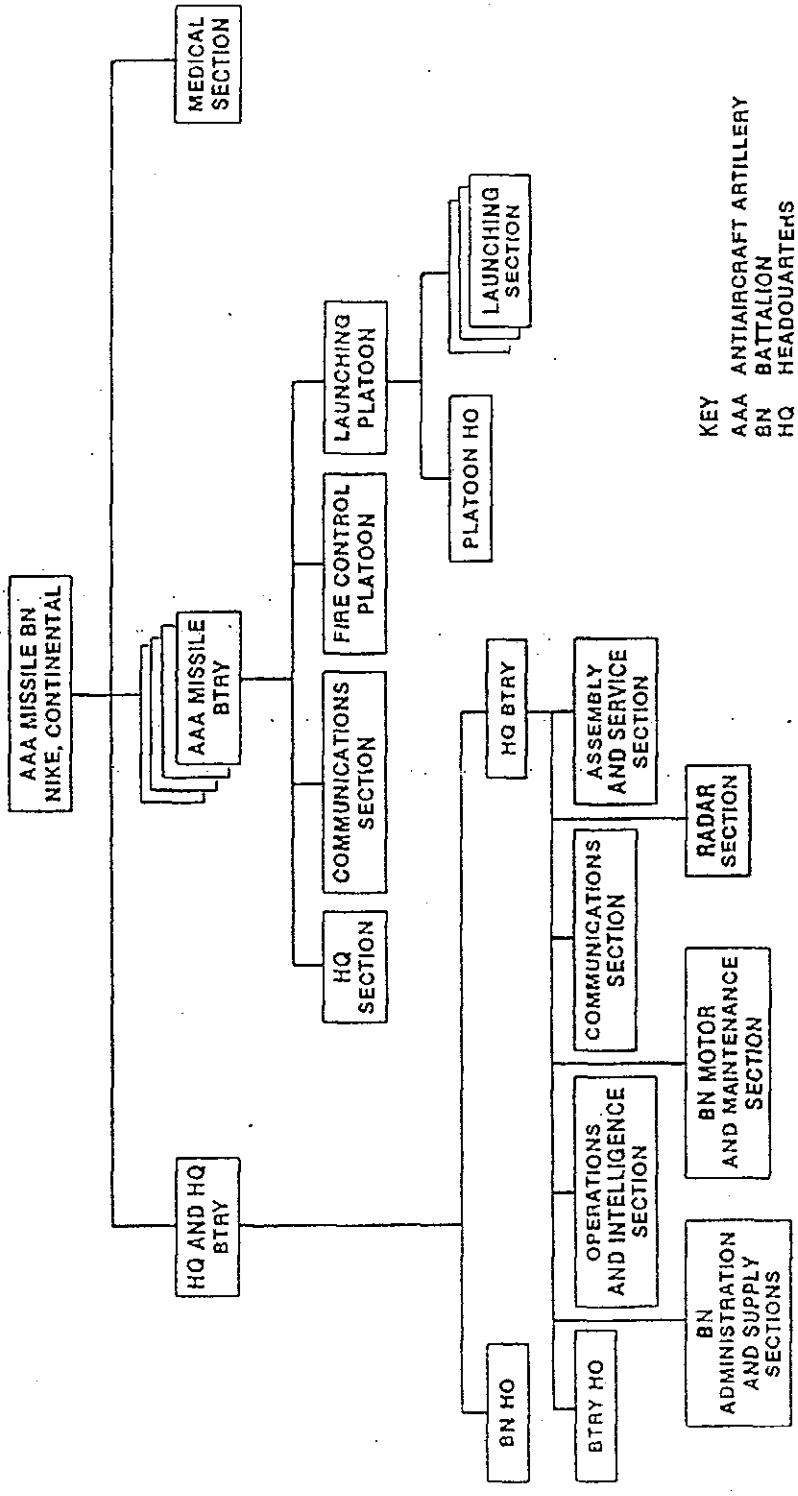

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